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# Current Economic Analysis I-19

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

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# INDUSTRIAL FISHERY PRODUCTS

## MARKET REVIEW AND OUTLOOK

Published
by the
MARKET
RESEARCH AND
SERVICES DIVISION
Washington, D.C.
July 1973

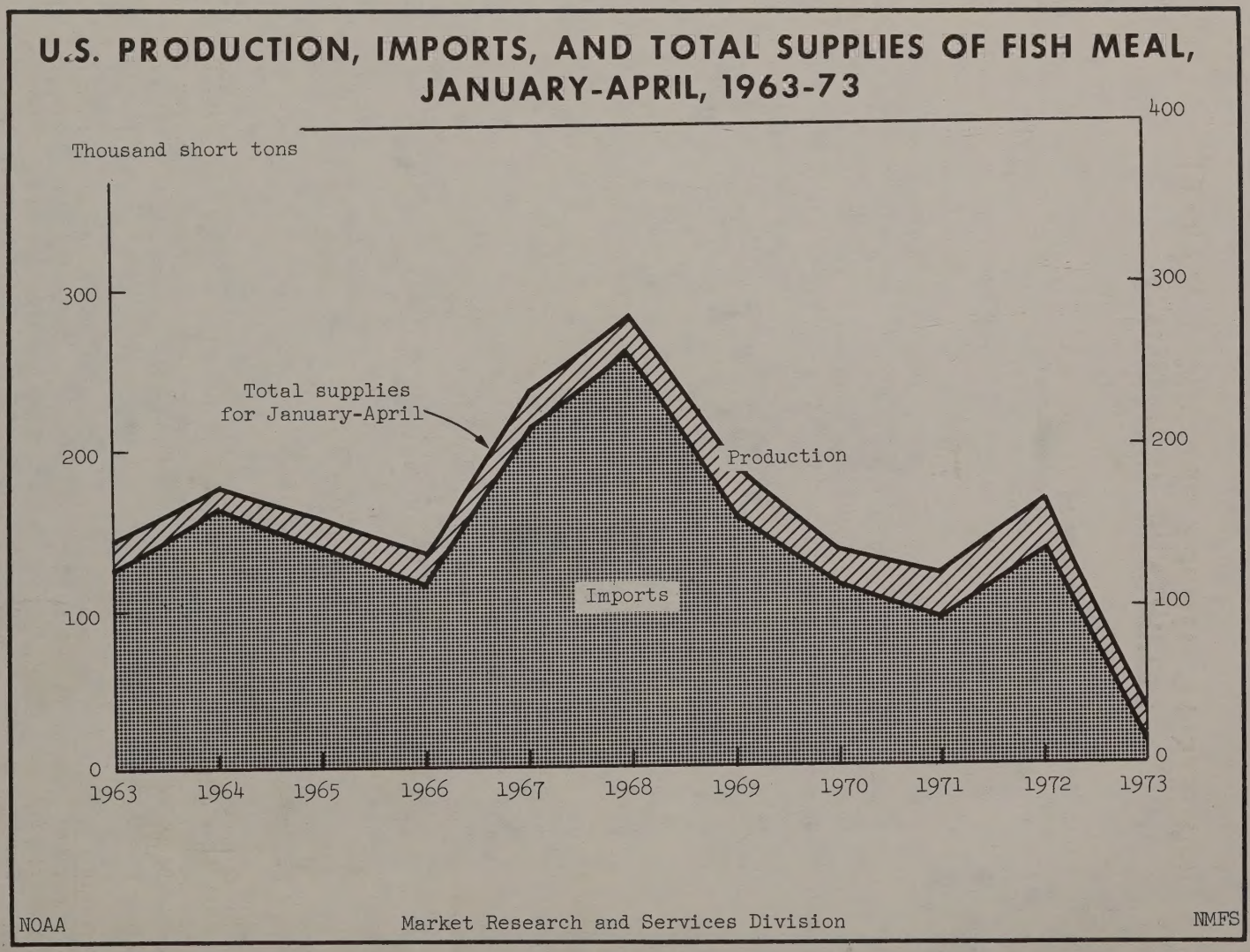
U.S. PRODUCTION, IMPORTS, AND TOTAL SUPPLIES OF FISH MEAL, JANUARY-APRIL, 1963-73
Thousand short tons
400
300
200
100
0
Total supplies for January-April
Production
Imports
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
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Figure 1

# INDUSTRIAL FISHERY PRODUCTS MARKET REVIEW AND OUTLOOK

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## SUMMARY

### FISH MEAL

Total supplies in U.S. during January-May 1973 only one-fourth as large as a year ago. U.S. imports only 9 percent of January-May 1972, reflecting drastic cut in Peruvian production of fish meal. Domestic production for the first 5 months of 1973 down 29 percent from the year before. Production of menhaden meal especially disappointing.

World production, for January-March, 30 percent below a year earlier. Peru's anchovy fishery closed in April owing to low catch--earliest reopening in October, if then. FEO[1/] January-March exports only one-sixth of the year before. Some improvement in FEO stock situation at the beginning of April due to Peruvian production in March, but stocks only half of April 1, 1972, level.

Prices of fish meal continued sharp increase. Nominal prices of Peruvian meal up 38 percent from January to May. Menhaden meal up 17 percent during the same time--two and a half times the price of a year before.

Outlook for the second half of 1973 is for continuing short supplies and high prices. Imports negligible, domestic production lower than a year ago. Export controls for fish meal, soybeans and soybean byproducts expected to improve the general U.S. feed situation--minor influence on prices of fish meal.

## FISH SOLUBLES

Supplies of fish solubles in January-May 1973 slightly less than a year before. Prices in January double those a year before; in May 1972 more than three times as high as in May 1972. Outlook for the second half of 1973 indicates high demand during the third quarter but perhaps some softening of prices towards the end of the year.

## FISH OIL

Production of fish oil in January-May about 10 percent below a year ago. Menhaden oil production down 28 percent from last year and only half of 1971 January-May production. Industrial use of fish oil slightly down. Exports for January-May also off slightly, but proportionally high in view of declined production. Prices record high. Outlook for fish oil for the second half of 1973 is: softening export market in the fall, domestic use below last year. Total production for 1973 lower than 1972.

---

1/ Fishmeal Exporters Organization: member countries are Angola, Chile, Iceland, Norway, Peru, and South Africa.

# FISH MEAL

## REVIEW

### Supplies

The fish meal supply in the United States in January-May 1973 was dominated by the Peruvian anchoveta crisis. Imports from Peru slowed to a trickle, and total available quantity of fish meal during the period was about 65,500 tons[2/], only one-fourth of the 261,500 tons available a year ago. There was also less available from other foreign sources that were depleted by heavy demand in international markets, and domestic production was off sharply.

Table 1.--Supplies, production, and imports of fish meal in the United States, by month, 1971-73 1/

| Month | Supplies | | | Production | | | Imports | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1971 | 1972 | 1973 2/ | 1971 | 1972 | 1973 2/ | 1971 | 1972 | 1973 2/ |
| | Thousand short tons | | | | | | | | |
| January | 38.0 | 24.6 | 10.5 | 4.6 | 6.3 | 3.2 | 33.3 | 18.3 | 7.3 |
| February | 19.3 | 52.9 | 5.9 | 3.5 | 4.7 | 4.2 | 15.8 | 48.1 | 1.6 |
| March | 17.6 | 51.1 | 5.1 | 4.4 | 5.5 | 4.6 | 13.3 | 45.6 | 0.4 |
| April | 45.6 | 36.8 | 17.2 | 13.8 | 12.9 | 10.9 | 31.8 | 23.9 | 6.3 |
| May | 40.8 | 96.2 | 26.8 | 30.2 | 37.0 | 24.0 | 10.5 | 59.2 | 2.4 |
| June | 88.4 | 90.1 | | 58.1 | 38.6 | | 30.2 | 51.4 | |
| July | 57.5 | 101.9 | | 51.7 | 42.5 | | 5.8 | 59.4 | |
| August | 65.6 | 67.6 | | 51.0 | 52.4 | | 14.7 | 15.3 | |
| September | 91.3 | 47.4 | | 28.4 | 29.6 | | 62.9 | 17.8 | |
| October | 56.1 | 71.1 | | 19.0 | 24.9 | | 37.1 | 46.2 | |
| November | 17.8 | 15.9 | | 13.3 | 13.6 | | 4.5 | 2.3 | |
| December | 28.1 | 10.5 | | 4.8 | 6.1 | | 23.3 | 4.5 | |
| Total 3/ | 566.1 | 666.1 | | 282.9 | 274.1 | | 283.2 | 392.0 | |

1/ Excludes meal made from shellfish.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

2/ In general, domestic figures are expressed in short tons and foreign figures in metric tons. Short tons are used in this report unless otherwise specified. To convert metric tons to short tons; multiply by 1.1023.

Summarized, the supply situation was as follows:

| | January-May 1972 | January-May 1973 | Percentage change |
|---|---|---|---|
| | - - Thousand short tons - - - | | Percent |
| U.S. production | 66.4 | 47.4 | -28.6 |
| Imports: | | | |
| From : Peru | 174.8 | 11.8 | -93.2 |
| Other | 20.3 | 6.2 | -69.5 |
| Total | 195.1 | 18.0 | -90.8 |
| Total supplies | 261.5 | 65.5 | -75.0 |

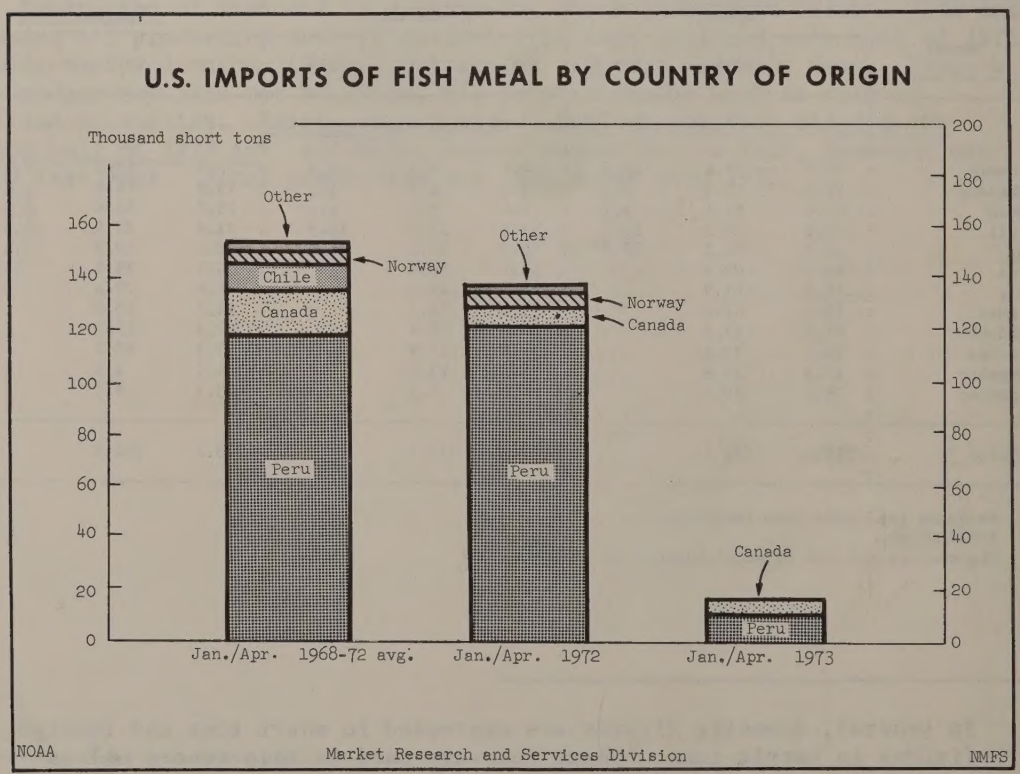


Figure 2

Table 2.--U.S. imports of fish meal by country of origin, 1972-73

| Time period | Country of origin | | | | Total 1/ |
|---|---|---|---|---|---|
| | Canada | Peru | Norway | Other | |
| | Thousand short tons | | | | |
| 1972 | | | | | |
| January | 3.2 | 14.9 | - | 0.2 | 18.3 |
| February | 1.3 | 43.1 | 3.3 | .4 | 48.1 |
| March | 1.1 | 44.1 | 2/ | .3 | 45.6 |
| April | 1.4 | 19.0 | 3.3 | 2/ | 23.9 |
| May | 1.4 | 53.7 | 3.8 | .3 | 59.2 |
| 1973 | | | | | |
| January | 0.8 | 6.3 | - | 0.1 | 7.3 |
| February | .4 | 1.2 | - | - | 1.6 |
| March | .4 | - | - | - | 0.4 |
| April | 2.0 | 4.3 | - | - | 6.3 |
| May | 2.2 | - | - | .2 | 2.4 |

1/ Figures may not add to total because of rounding.
2/ Less than 0.05.

## Fish Meal Production in the United States

In the United States production of menhaden meal in January-May 1973 was particularly disappointing. About 17,100 tons were produced--most of it in May, the second month of the season--compared with 35,700 tons a year ago.

Bad weather hampered menhaden fishing, and heavy spring floods, especially in the Gulf Coast areas, pushed fish further offshore and to deep waters. The season, in April, got off to a bad start, and preliminary figures through May indicate that menhaden landings this year totaled 169 million pounds, about half of the catch of a year ago.

Menhaden landings by area were as follows:

| | January-May 1972 | January-May 1973 | Percentage change |
|---|---|---|---|
| | Million pounds | | Percent |
| Atlantic Coast | 33.3 | 21.4 | -35.7 |
| Gulf Coast | 307.2 | 147.7 | -51.9 |
| Total | 340.4 | 169.0 | -50.4 |

Table 3.--U.S. fish meal production by raw material source

| Time Period | Source | | | | Total 3/ |
|---|---|---|---|---|---|
| | Menhaden 1/ | Anchovy | Tuna and mackerel | Unclassified | |
| | Thousand short tons | | | | |
| 1972 | | | | | |
| January | 2/ | 2.0 | 3.0 | 1.3 | 6.3 |
| February | 2/ | 1.4 | 2.5 | 0.8 | 4.7 |
| March | - | 0.6 | 3.6 | 1.3 | 5.5 |
| April | 5.5 | 0.9 | 4.8 | 1.8 | 12.9 |
| May | 30.2 | 0.4 | 4.3 | 2.1 | 37.0 |
| 1973 | | | | | |
| January | 2/ | 0.1 | 2.0 | 1.1 | 3.2 |
| February | - | - | 3.2 | 1.0 | 4.2 |
| March | - | - | 3.1 | 1.5 | 4.6 |
| April | 2.0 | 1.7 | 5.3 | 1.9 | 10.9 |
| May | 14.9 | 1.0 | 5.6 | 2.9 | 24.5 |

1/ May include small quantities made from other species.
2/ Included with unclassified.
3/ Figures may not add to total because of rounding.
Data for 1973 preliminary.

Only about 2,726 tons or about 5 percent of the January-May production of fish meal came from California anchovies. A year ago, production was 5,200 tons and 8 percent of the total. The dispute over the exvessel price of anchovy stopped anchovy meal production during February, and bad weather hampered fishing, especially in January. Fishing improved, however, towards the end of the season. Landings for the California anchovy season, which opened in the Northern Permit Area on August 1 and in the Southern Permit Area on September 15, 1972, and closed May 15, 1973, were about 75,000 tons, representing 68 percent of the allowable quota of 110,000 tons. About 40,500 tons of the season's catch was landed between January 1 and May 15, 1973,--25 percent more than a year ago.

## World Production of Fish Meal

World production of fish meal for the first 4 months of 1973 was poor (table 4). Production dropped in all the major exporting countries except South Africa and Iceland.

Table 4.--Production of fish meal in eight major exporting countries, January-April, 1972-73

| Country | 1972 | 1973 | Percentage of total production | |
|---|---|---|---|---|
| | | | 1972 | 1973 |
| | - Thousand metric tons - | | ----- Percent ----- | |
| Angola | 38.7 | 37.0 1/ | 3.2 | 4.6 |
| Canada | 15.5 | 9.5 | 1.3 | 1.2 |
| Chile | 52.0 | 25.0 | 4.3 | 3.1 |
| Denmark | 55.0 | 50.0 | 4.5 | 6.3 |
| Iceland | 54.0 | 74.0 | 4.5 | 9.3 |
| Norway | 220.0 | 155.0 | 18.1 | 19.4 |
| Peru | 701.0 | 352.0 | 57.7 | 44.1 |
| South Africa | 77.0 | 96.0 | 6.4 | 12.0 |
| Total | 1,213.2 | 798.5 | 100.0 | 100.0 |

1/ Estimated.

Table 4A--Production of fish meal in eight major exporting countries, 1970, 1971, and 1972

| Country | 1970 | 1971 | 1972 1/ | Percentage of total production | | |
|---|---|---|---|---|---|---|
| | | | | 1970 | 1971 | 1972 |
| | Thousand metric tons | | | Percent | | |
| Angola | 67.4 | 57.8 | 130.7 | 1.9 | 1.8 | 6.2 |
| Canada | 112.3 | 91.2 | 72.2 | 3.2 | 2.8 | 3.5 |
| Chile | 162.7 | 243.3 | 83.0 | 4.6 | 7.5 | 4.0 |
| Denmark | 195.6 | 235.2 | 221.1 | 5.6 | 7.3 | 10.6 |
| Iceland | 69.1 | 63.9 | 66.3 | 2.0 | 2.0 | 3.2 |
| Norway | 350.8 | 384.4 | 375.5 | 10.0 | 11.9 | 17.9 |
| Peru | 2,253.4 | 1,888.9 | 898.0 | 64.1 | 58.3 | 42.9 |
| South Africa | 303.2 | 272.7 | 245.4 | 8.6 | 8.4 | 11.7 |
| Total | 3,514.5 | 3,237.4 | 2,092.2 | 100.0 | 100.0 | 100.0 |

1/ Preliminary.

Table 5 .--Anchovy landings in Peru, by month, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Thousand metric tons | | |
| January | 132 | 30 | 18 |
| February | 151 | 160 | - |
| March | 2,578 | 1,830 | 1,194 |
| April | 1,573 | 1,560 | 400 1/ |
| May | 690 | 535 | |
| June | 98 | 155 | |
| July | - | - | |
| August | - | - | |
| September | 1,205 | - | |
| October | 1,358 | - | |
| November | 1,155 | 70 | |
| December | 1,342 | 120 | |
| Total | 10,282 | 4,460 | |

1/ Estimated.

A state of crisis persists in the Peruvian anchoveta fishery, which was the world's leading source of fish meal. Peruvian fish meal production attained during the January to April period reached 352,000 metric tons, which was 50 percent below last year. For 3 weeks during March, the Peruvian fleet landed about 1 million tons of fish, which equals about 200,000 tons of fish meal. Towards the end of the trial period, however, the catch per unit of effort declined. This indicates that the anchoveta stock had become less abundant. Nevertheless, anchovy fishing was resumed again in April: a quota was set at 800,000 tons and vessels were only allowed one voyage per day, 4 days a week. The daily catch rate was disappointing, approximately one-half of the daily catch rate of 80,000 tons during March and also about one-half the rate of a "normal" annual catch. The total catch during the period was only 400,000 tons, or one-half the government imposed quota (table 5).

Prospects are not good for the replenishment of anchoveta in Peruvian coastal waters. FAO researchers in Peru have suggested that the fishery should be closed until March 1974, to allow the stock to reach its normal level. Although the Peruvian government has not indicated what conservation measures it will take, it is possible that fishing will not be allowed until October.

In other developments, the Peruvian government nationalized the country's fish meal and fish oil industry on May 7. The takeover will consolidate the industry operations under "Pescaperu", a new state-owned

enterprise. The government decision to nationalize is attributed to the industry's current indebtedness. However, the impact of the nationalization on the international markets for fish meal is minor, because all sales of Peruvian fish meal since May 1970 have been made through the government sales organization, EPCHAP.

Table 6.--Exports of fish meal from FEO[1/] countries, January-April, 1972-73

| Country | 1972 | 1973 | Percentage of total exports | |
|---|---|---|---|---|
| | | | 1972 | 1973 |
| | Thousand metric tons | | Percent | |
| Angola | 33.0 | 35.0 | 3.2 | 14.4 |
| Chile | 56.0 | 3.5 | 5.4 | 1.4 |
| Iceland | 28.0 | 44.0 | 2.7 | 18.1 |
| Norway | 131.0 | 128.0 | 12.7 | 52.7 |
| Peru | 739.0 | 7.6 | 71.3 | 3.1 |
| South Africa | 49.0 | 25.0 | 4.7 | 10.3 |
| Total | 1,036.0 | 243.1 | 100.0 | 100.0 |

1/ Fishmeal Exporters Organization.

Table 6A.--Exports of fish meal from FEO countries, 1970-72

| Country | 1970 | 1971 | 1972 | Percentage of total exports | | |
|---|---|---|---|---|---|---|
| | | | | 1970 | 1971 | 1972 |
| | Thousand metric tons | | | Percent | | |
| Angola | 57 | 48 | 124 | 2.3 | 1.9 | 5.3 |
| Chile | 100 | 193 | 78 | 4.0 | 7.7 | 3.3 |
| Iceland | 62 | 59 | 72 | 2.5 | 2.4 | 3.1 |
| Norway | 249 | 338 | 390 | 9.9 | 13.5 | 16.7 |
| Peru | 1,873 | 1,749 | 1,528 | 74.4 | 70.1 | 65.5 |
| S. Africa | 173 | 109 | 143 | 6.9 | 4.4 | 6.1 |
| Total | 2,514 | 2,496 | 2,335 | 100.0 | 100.0 | 100.0 |

Source: Fishmeal Exporters Organization.

Table 7 .--FEO 1/ exports of fish meal, by country of destination, January-March, 1971-73

| Country | FEO exports | | | Percentage of total FEO exports | | |
|---|---|---|---|---|---|---|
| | 1971 | 1972 | 1973 | 1971 | 1972 | 1973 |
| | - Thousand metric tons - - | | | - - - - - Percent - - - - - | | |
| EEC | | | | | | |
| Belgium | 9.6 | - | - | 2.1 | - | - |
| France | 11.3 | 14.6 | 5.4 | 2.5 | 1.9 | 3.1 |
| Germany, West | 105.6 | 133.7 | 16.8 | 23.3 | 17.6 | 9.6 |
| Italy | 21.2 | 32.3 | 6.1 | 4.7 | 4.3 | 3.6 |
| Netherlands | 19.8 | 71.8 | 6.1 | 4.3 | 9.5 | 3.6 |
| Total | 167.5 | 252.4 | 34.4 | 37.5 | 33.2 | 19.8 |
| United States 2/ | 25.1 | 96.0 | - | 5.6 | 12.6 | - |
| East European Countries 3/ | 108.7 | 130.0 | 22.8 | 24.5 | 17.1 | 13.2 |
| Scandinavian Countries 4/ | 26.7 | 26.8 | 30.9 | 5.9 | 3.5 | 17.8 |
| Latin American Countries 5/ | 36.7 | 38.9 | - | 8.1 | 5.1 | - |
| Other | | | | | | |
| Japan | 1.6 | 22.0 | 3.0 | .4 | 2.9 | 1.7 |
| Spain | 20.0 | 19.0 | - | 4.4 | 2.5 | - |
| United Kingdom | 39.4 | 65.4 | 43.7 | 8.5 | 8.6 | 25.1 |
| Other | 28.3 | 109.5 | 38.7 | 6.3 | 14.4 | 22.3 |
| Total | 83.3 | 106.4 | 85.4 | 18.4 | 14.0 | 49.2 |
| TOTAL | 453.0 | 760.0 | 173.5 | 100.0 | 100.0 | 100.0 |

1/ Fishmeal Exporters Organization.
2/ Based on export figures reported by FEO countries.
3/ Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, and Yugoslavia.
4/ Denmark, Finland, and Sweden.
5/ Argentina, Bolivia, Brazil, Columbia, Cuba, Mexico, and Venezuela.

Source: Fishmeal Exporters Organization.

FEO Exports

As a result of the sharp decline in the world production of fish meal, exports by the member countries of the Fishmeal Exporters Organization were only 243,100 tons for the January-April period. This was less than one-fourth last year's volume for the same 4 months of the year (table 6).

All but two of the major exporting countries (Angola and Iceland) had a decline in exports. The persistence of the oceanographic phenomenon, "El Nino," off the west coast of South America has caused severe shortages in world export markets. For the first 4 months of 1973, Peru shipped a mere 7,600 tons to West Germany, Italy, and U.K. (table 7). Only in late March did Peru disclose that 30 percent (about 72,000 tons of fish meal) of the production from the March catch would be delivered against 1972 contracts at the early 1972 market price of $165 per ton. And, 160,000 tons would be sold at "current market" prices (March prices averaged $412 per short ton in the United States, and about $462 per short ton in Europe.

The tight supply situation and high prices have necessitated severe rationing of fish meal; only the Scandinavian countries were able to increase their imports which came entirely from Iceland and Norway during the first 3 months of 1973.

Table 8 .--FEO 1/ fish meal stocks held April 1, 1968-72 average, 1972, and 1973

| Country | 1968-72 average | 1972 | 1973 | 1968-72 average | 1972 | 1973 |
|---|---|---|---|---|---|---|
| | Thousand metric tons | | | Percentage of FEO total stocks | | |
| | | | | Percent | | |
| Angola | 13.6 | 23.0 | 15.0 2/ | 2.2 | 2.4 | 3.2 |
| Chile | 42.5 | 44.0 | 14.0 | 6.9 | 4.5 | 3.0 |
| Iceland | 19.4 | 36.0 | 27.0 | 3.2 | 3.7 | 5.8 |
| Norway | 108.7 | 236.0 | 86.0 | 17.5 | 24.2 | 18.4 |
| Peru | 404.2 | 610.0 | 303.0 | 65.3 | 62.5 | 64.5 |
| S. Africa | 30.2 | 26.0 | 24.0 | 4.9 | 2.7 | 5.1 |
| Total | 618.6 | 975.0 | 469.0 | 100.0 | 100.0 | 100.0 |

1/ Fishmeal Exporters Organization.
2/ Estimated.

FEO Fish Meal Stocks

As the current short supply situation would tend to dictate, fish meal stocks in the member countries of Fishmeal Exporters Organization have shrunk (469,000 tons on April 1, 1973) to about one-half of the April 1, 1972, level (table 8). However, the stock level for April 1, last year was larger than normal, because Peruvian export sales had been slowed owing to the prices, which at that time were considered high. Even so, this year's stocks by April 1 are down nearly 32 percent from the 1968-72 average.

Nevertheless, the stock figure on April 1 shows considerable improvement from the February 1 level when total FEO stocks were a mere 184,900 tons. The subsequent buildup of FEO stocks is primarily a result of Peru's brief resumption of fishing during March. Poor fishing during April and gloomy prospects for a normal resumption of fishing (until October at the earliest) will continue to drain world stocks.

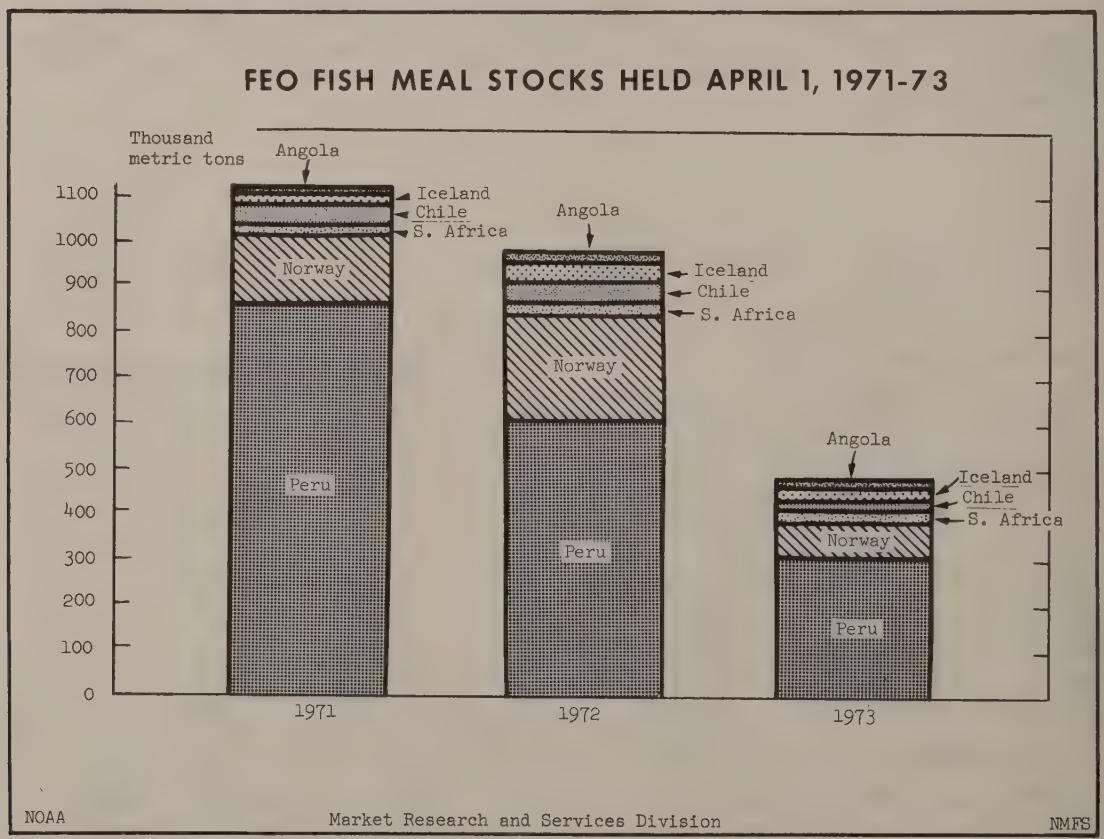


Figure 3

## Demand

### Broiler Placements

The shortage of fish meal and other high protein feed ingredients has affected the broiler business, the major user of fish meal in the United States. Broiler chick placements in January-May 1973 were about 4 percent below the same period a year ago. About 1.3 billion broiler chicks were placed on farms in the leading broiler-producing States during the first 5 months of 1973 (table 9). Tight supplies and high prices of protein feeds were the major reasons for the decline in broiler placements.

Table 9.--Broiler chick placements in 22 States, and average broiler price at the farm, by month, 1971-73

| Month | 1971 | | 1972 1/ | | 1973 | |
|---|---|---|---|---|---|---|
| | Chicks placed 2/ | Broiler price | Chicks placed 2/ | Broiler price | Chicks placed 2/ | Broiler price |
| | Million | Cents/lb. | Million | Cents/lb. | Million | Cents/lb. |
| January | 250.4 | 13.0 | 260.5 | 13.4 | 255.3 | 17.2 |
| February | 226.2 | 13.9 | 256.4 | 14.6 | 230.0 | 19.4 |
| March | 263.8 | 13.6 | 282.2 | 14.5 | 276.4 | 23.3 |
| April | 263.8 | 13.6 | 277.8 | 13.1 | 266.1 | 25.5 |
| May | 271.4 | 14.6 | 285.0 | 13.6 | 278.7 | 23.8 |
| June | 263.0 | 15.1 | 271.7 | 14.3 | | |
| July | 254.4 | 15.6 | 259.8 | 15.7 | | |
| August | 254.8 | 14.3 | 260.2 | 14.6 | | |
| September | 227.0 | 14.0 | 229.6 | 15.5 | | |
| October | 225.9 | 12.9 | 237.3 | 14.6 | | |
| November | 238.0 | 12.5 | 239.9 | 13.8 | | |
| December | 252.6 | 12.1 | 249.7 | 14.0 | | |
| Total placements and average price | 2,991.2 | 13.8 | 3,110.2 | 14.3 | | |

1/ Preliminary.
2/ Weekly broiler chick placements prorated between months.
Note: Figures may not add to total because of rounding.

Sources: Delmarva Broiler Chick Report, U.S. Department of Agriculture, Statistical Reporting Service, and Poultry and Egg Situation, U.S. Department of Agriculture, Economic Research Service.

Prices paid for broilers in the first 4 months of 1973 averaged 20 cents per pound, 6 cents above the average price paid a year ago. However, prices of fish meal more than doubled during this period and, by the end of May, soybean meal prices were four times higher than a year before, thus causing serious cost pressure in broiler growing.

Bad weather and high world demand for corn and soybean have caused further price increases of these ingredients in May, and the disappointing Peruvian fish catch in April has kept supplies of fish meal continuously short. The shortage of fish meal is also causing hardship for fish farmers and fish hatcheries. The proportion of fish meal used in fish feed formulas varies from 10 to 45 percent and is considered as a major ingredient in fish feed. Fish meal provides high-quality protein, and no equally satisfactory substitutes are now known to replace fish meal in fish feed formulas. A review of recent trade publications and various interviews suggest that at least 12,000 tons, but possibly even as much as 35,000 to 45,000 tons of fish meal, is used annually by U.S. aquaculture. This, of course, is still only about 2 to 7 percent of the total fish meal normally used in the United States.

Table 10.--Average monthly price of soybean meal 1/ at Decatur, Ill., 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Dollars per short ton | | |
| January | 86.10 | 89.40 | 210.40 |
| February | 82.40 | 91.50 | 240.00 |
| March | 82.00 | 98.60 | 224.90 |
| April | 80.50 | 101.80 | 228.40 |
| May | 84.80 | 103.30 | 346.60 |
| June | 87.60 | 104.90 | 450.00 |
| July | 90.00 | 111.60 | |
| August | 84.20 | 111.00 | |
| September | 80.00 | 117.90 | |
| October | 80.80 | 118.60 | |
| November | 79.20 | 133.00 | |
| December | 88.50 | 195.00 | |
| Average 2/ | 83.90 | 115.70 | |

1/ 50 percent protein, bulk.
2/ Average weighted by monthly production of soybean meal and cake.

Source: Feed Market News, U.S. Department of Agriculture, Consumer and Marketing Service, Grain Division.

Table 11.--Ratio of Peruvian fish meal price 1/ to soybean meal price 2/, by month, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Price ratio | | |
| January | 2.14 | 1.83 | 1.65 |
| February | 2.17 | 1.79 | 1.69 |
| March | 2.16 | 1.67 | 1.83 |
| April | 2.20 | 1.68 | 1.77 |
| May | 2.00 | 1.75 | 1.38 |
| June | 1.79 | 1.68 | |
| July | 1.72 | 1.62 | |
| August | 1.90 | 1.73 | |
| September | 1.99 | 1.65 | |
| October | 1.95 | 1.78 | |
| November | 1.99 | 1.74 | |
| December | 1.79 | 1.24 | |
| Average | 1.98 | 1.55 | |

1/ F.o.b. East Coast ports, 65 percent protein, as quoted at New York City.
2/ Wholesale at Decatur, Ill., 50 percent protein, bulk.

Soybean Meal Prices

Record high prices for soybean meal and tight supplies continued to dominate the market during the first 5 months of 1973 (table 10). Average monthly prices of soybean meal increased to $240 per ton in February, declined slightly in March, but jumped to $325 per ton in May. In the beginning of June, prices were soaring at $495 per ton for 50 percent meal at Decatur, Ill. Soybean meal prices were about $105 a year ago. More soybeans and soybean meal were exported than a year before because of strong foreign demand. A decline in availability and high prices of soybean meal caused a 5-percent reduction in domestic consumption in January-March compared to the year before. The use in March was 9 percent below a year ago.

Because availability of fish meal was drastically low, it could not provide an alternative source of protein feed, although the average price ratio of fish meal to soybean meal indicated that fish meal was on the average a better buy in January-May this year than during the same period a year ago. The average price ratio of fish meal to soybean meal for the first 5 months of 1973 was 1.68:1--compared to 1.74:1 a year before (table 11).

Table 12.--Average monthly price of Peruvian fish meal 1/ f.o.b. East Coast ports, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Dollars per short ton | | |
| January | 184.10 | 163.30 | 2/347.25 |
| February | 178.90 | 163.60 | 2/406.25 |
| March | 177.30 | 164.00 | 2/411.90 |
| April | 177.00 | 171.50 | 2/405.00 |
| May | 169.40 | 180.60 | 2/480.00 |
| June | 156.80 | 176.10 | 3/ |
| July | 154.50 | 180.90 | |
| August | 160.10 | 192.00 | |
| September | 159.00 | 194.90 | |
| October | 157.80 | 210.80 | |
| November | 157.50 | 231.00 | |
| December | 158.40 | 241.00 | |
| Average 4/ | 166.10 | 179.20 | |

1/ 65 percent protein, bulk, f.o.b. East Coast ports.
2/ Nominal price.
3/ Supplies exhausted, no quotes.
4/ Average weighted by monthly imports of Peruvian fish meal.

## Fish Meal Prices

Because of the short supply, the average price of Peruvian fish meal during January-May was nominal--quoted but few or no sales. The average nominal price of 65 percent protein Peruvian meal was $347.25 per ton in January, more than twice the price a year before (table 12). The average monthly price in May was $480 per ton--about a 38-percent increase in 4 months. During the first weeks of June, prices for Peruvian meal were not quoted because supplies were all exhausted.

During January-April, supplies of menhaden meal were seasonally very tight; the fishing season normally opens in April. The nominal prices for menhaden meal in January-April were generally quoted higher than the prices of Peruvian meal (table 13). The average price in May was $457.50 per ton--a 17-percent increase from January and two and a half times the price in May 1972. Menhaden meal prices reached $600 per ton during the early part of June, partly because of low landings of menhaden in the early part of the season, the halt of fishing in late April in Peru, and the jump of soybean meal prices in May. Tuna and mackerel meals had a relatively sharper increase in prices during the first 4 months of 1973 than menhaden and Peruvian meals. The average price was $187 per ton in January and $390 per ton in April. During the second week of June, the price of tuna and mackerel meals was quoted at $480 per ton (table 14).

Table 13.--Average monthly price of menhaden meal 1/ f.o.b. East Coast and Gulf points, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Dollars per short ton | | |
| January | 2/186.50 | 164.70 | 3/389.50 |
| February | 2/184.20 | 165.00 | 3/410.10 |
| March | 180.00 | 164.70 | 3/424.10 |
| April | 174.10 | 168.20 | 3/409.50 |
| May | 169.20 | 181.10 | 457.50 |
| June | 153.60 | 175.00 | 508.10 |
| July | 150.10 | 178.50 | |
| August | 159.20 | 189.70 | |
| September | 160.30 | 193.90 | |
| October | 160.30 | 210.20 | |
| November | 161.80 | 227.50 | |
| December | 162.90 | 237.50 | |
| Average 4/ | 158.00 | 185.50 | |

1/ 60 percent protein, bulk, as quoted by brokers at New York City.
2/ Mainly meal at Gulf points.
3/ Nominal price.
4/ Average weighted by monthly production of menhaden meal.

Table 14.--Average monthly prices of tuna and mackerel meal 1/, at Los Angeles, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Dollars per short ton | | |
| January | 150.00 | 135.00 | 187.00 |
| February | 150.00 | 137.60 | 2/ |
| March | 150.00 | 135.00 | 360.00 |
| April | 150.00 | 138.40 | 390.00 |
| May | 147.60 | 142.80 | 393.80 |
| June | 144.00 | 147.80 | 468.80 |
| July | 138.00 | 154.00 | |
| August | 135.00 | 172.50 | |
| September | 135.00 | 174.00 | |
| October | 135.00 | 176.40 | |
| November | 135.00 | 181.40 | |
| December | 127.50 | 187.00 | |
| Average 3/ | 141.10 | 155.90 | |

1/ 60 percent protein, bulk, as quoted by brokers at Los Angeles.
2/ No quotes.
3/ Average weighted by monthly production.

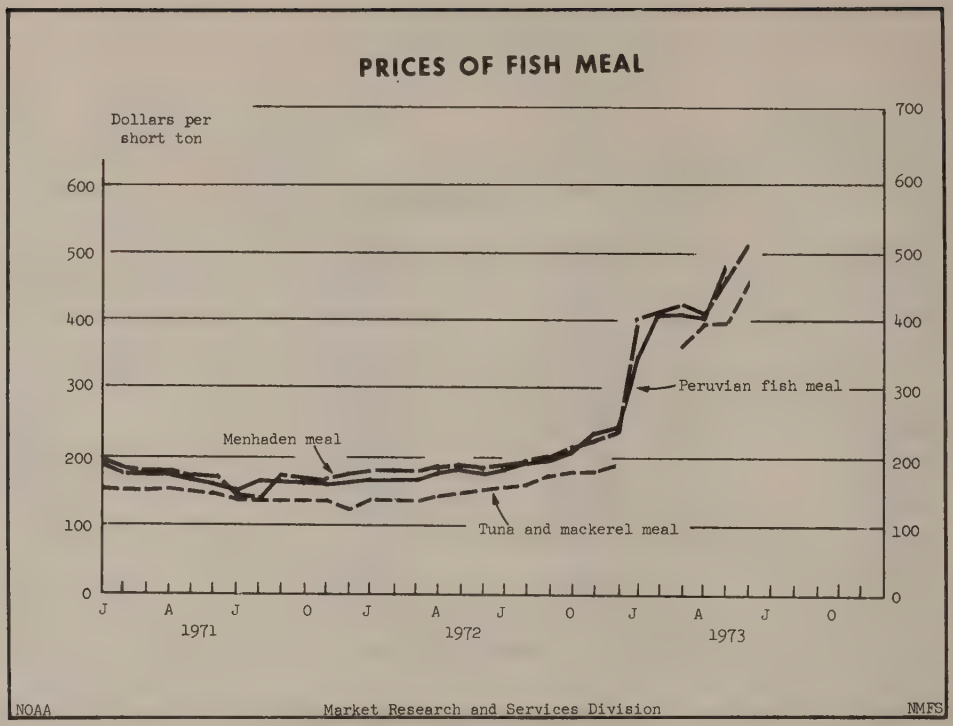


Figure 4

## OUTLOOK

The anchovy crisis in Peru will dominate the fish meal supply situation for the rest of 1973. The outlook for fish meal is, therefore, one of continuous short supplies and high prices. United States users cannot depend on any significant quantity of Peruvian meal during the rest of 1973.

Although the sea water temperatures along the Peruvian coast have improved and are now close to normal, the main concerns are the condition of the resource and the fishing prospects in October. Fish population index figures indicated at the end of 1972 that the abundance of anchovies was 2 to 6 million metric tons. Under normal conditions the index shows an abundance of 20 to 25 million tons. To allow recovery of the fishery, the Government will either impose strictly enforced quotas or more likely postpone the opening of the fishery. Last spring Peru's Marine Institute (Instituto del Mar del Peru) recommended a monthly catch quota of 500,000 tons, which equals about 100,000 tons of fish meal per month. The second half of 1973 production of fish meal in Peru could be about 300,000 metric tons, assuming that: 1) 500,000 metric ton quota is applied, 2) the fishery is opened in October, and 3) fish are available. If the fishery stays closed until March 1974, the annual production of fish meal in 1973 would near the January-April production of 352,000 tons. The second half average production for 1967-71 was 840,000 metric tons.

The nationalization of the fish meal industry and establishment of the state-owned enterprise "Pescaperu" in May was justified by the government partially on the basis that variations in production because of the resource require consolidated planning and rationalization of production. The fleet and production capacity are likely to be reduced before the fishing begins. The results of exploratory fishing in July and August will greatly influence the government's decision to resume fishing during the rest of 1973.

As far as U.S. imports of fish meal from other countries are concerned, high European demand and high prices will absorb most of the supplies, which are smaller than a year ago. Relatively small quantities are likely to be imported.

Production of domestic fish meal in 1973 is expected to be lower than a year before mainly because landings of menhaden were low during the first half of the year. (January-May production of menhaden meal was only 48 percent of the production a year before.) Total production of fish meal may remain around 250,000 tons in 1973, compared to 275,000 tons in 1972.

The 60-day price controls, announced June 13, holds prices of domestic fish meal--as well as soybean meal--to a maximum level at which individual producers and brokers sold the meal during the base period June 1-8, 1973. Fish meal prices were at record levels by the time of the base period.

Broiler placements for the second half of 1973 are expected to drop considerably from a year before. High prices of feed ingredients have driven feed users, especially broiler producers, into a cost price squeeze, because prices of broilers did not increase fast enough before the price freeze. Broilers are exempt from price freeze at the point of first sale, but the distributors' price is frozen and growers have little possibility to increase their prices.

The control on exports of soybeans, cottonseeds, and their byproducts, meal and oil, become effective on June 27, and followed by export restrictions for other categories of agricultural commodities, including fish meal and solubles. The intention of the export controls is to provide more feed supplies for the domestic markets and consequently increase the prospects for lower feed prices in the United States. From October on, the expected record harvest of 1.5 billion bushels of soybeans will ease the feed situation further. Because of the pessimistic outlook for Peru, it is not likely that prices of fish meal will weaken much this year in spite of the expectations of larger supplies of other protein feed ingredients at the end part of the year.

# FISH SOLUBLES

## REVIEW

### Supplies

About 24,000 tons of fish solubles were available in the United States in January-May 1973, slightly less than a year before (table 15). Production of menhaden solubles was 40 percent less than a year ago, but total production was balanced with higher production of other fish solubles. Virtually all of the U.S. supplies of fish solubles came from domestic production. Only about 73 tons of the solubles were imported during the first 5 months of this year.

### Demand

Low supplies of fish meal have had a noticeable impact on demand for fish solubles. Prices of menhaden solubles as quoted by brokers in New York City have increased since mid-1972. The average price in January 1973 was $80.50 per short ton, about twice the price a year before. Prices increased to $126.25 in May, compared with $38.10 per ton in May 1972 (table 16). This price increase was proportionately more than the increase in menhaden meal prices. In comparison with the 31 percent protein content of menhaden solubles and the 60 percent protein content of menhaden meal, the price difference of these products suggests that solubles are still a relatively low-priced source of protein. In contract to previous years, available solubles have been selling relatively well this year and supplies have been occasionally exhausted.

## OUTLOOK

Demand for fish solubles is expected to be higher during the second half of 1973 than a year before. We also expect the supply to improve along with the menhaden fishing.

With the announcement of Phase IV guidelines, on July 9, prices for all feed ingredients, including fish solubles, will be somewhat stabilized to those prices which prevailed during the "freeze base period" June 1-8, 1973. For additional information on Phase IV, please refer to the Addendum.

Table 15.--Total fish solubles available in the United States: production plus imports, by month, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Thousand short tons | | |
| January | 1.0 | 2.4 | 1.1 |
| February | 1.2 | 2.1 | 1.1 |
| March | 1.5 | 2.5 | 3.8 |
| April | 5.1 | 5.3 | 6.0 |
| May | 13.0 | 14.4 | 12.1 |
| June | 22.6 | 19.2 | |
| July | 19.4 | 21.7 | |
| August | 19.7 | 28.1 | |
| September | 11.4 | 12.9 | |
| October | 8.0 | 14.4 | |
| November | 6.4 | 8.3 | |
| December | 1.7 | 2.9 | |
| Total 1/ | 111.2 | 134.4 | |

1/ Figures may not add to total because of rounding.

Data for 1973 are subject to revision.

Table 16.--Average monthly price of menhaden solubles 1/, f.o.b. East Coast plants, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Dollars per short ton | | |
| January | 51.25 | 2/40.40 | 80.50 |
| February | 51.25 | 38.05 | 105.50 |
| March | 51.25 | 35.90 | 115.00 |
| April | 50.60 | 35.90 | 111.00 |
| May | 48.90 | 38.90 | 126.25 |
| June | 49.00 | 40.10 | 142.50 |
| July | 48.10 | 39.75 | |
| August | 47.15 | 40.60 | |
| September | 45.05 | 42.80 | |
| October | 43.10 | 52.75 | |
| November | 42.70 | 66.90 | |
| December | 42.50 | 72.50 | |
| Average 4/ | 47.30 | 43.45 | |

1/ In tank cars; prices quoted by brokers at New York City.
2/ East and Gulf Coasts.
3/ F.o.b. Gulf Coast plants only.
4/ Weighted average.

# FISH OIL

## REVIEW

### Supplies

U.S. Production of Fish Oil

The relatively low menhaden catch was reflected in the U.S. production of fish oil in January-May 1973. The domestic industry produced 24.7 million pounds of fish oil during the first 5 months of 1973--compared with 38.5 million pounds a year before (tables 17 and 18). About 19.5 million pounds of the production was menhaden oil, 14 million pounds less than a year ago and only about one-half of the January-May production of 1971. Anchovy oil production was slightly down; about 1.1 million pounds in January-May 1973, compared to 1.2 million pounds a year before. Dispute over the ex-vessel price of anchovy interrupted fishing and was the main reason for lower oil production. Production of tuna and mackerel oil was up. About 2.5 million pounds were produced during the first 5 months in 1973--850,000 pounds more than a year before.

Table 17.--U.S. production of fish oil[1/] by month, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Million pounds | | |
| January | 1.5 | 1.4 | 0.4 |
| February | 0.6 | 0.9 | .4 |
| March | .7 | .7 | .7 |
| April | 11.6 | 4.8 | 4.6 |
| May | 28.4 | 30.8 | 18.5 |
| June | 57.3 | 28.0 | |
| July | 53.2 | 32.6 | |
| August | 55.7 | 45.5 | |
| September | 29.4 | 23.2 | |
| October | 17.3 | 15.2 | |
| November | 8.0 | 4.3 | |
| December | 1.3 | 1.2 | |
| Total [2/] | 265.0 | 188.4 | |

1/ Excluding whale oil.

2/ Figures may not add to total because of rounding.

Data for 1973 are subject to revision.

Table 18.--U.S. fish oil production by raw material source, January-May, 1971-73

| Source | 1971 | 1972 | 1973 | Percentage of total production | | |
|---|---|---|---|---|---|---|
| | | | | 1971 | 1972 | 1973 |
| | Million pounds | | | Percent | | |
| Menhaden | 37.1 | 33.7 | 19.5 | 86.7 | 87.5 | 78.9 |
| Anchovy | 0.9 | 1.2 | 1.1 | 2.1 | 3.1 | 4.5 |
| Tuna and mackerel | 2.0 | 1.7 | 2.5 | 4.7 | 4.4 | 10.1 |
| Unclassified | 2.7 | 2.0 | 1.6 | 6.5 | 5.0 | 6.5 |
| Total | 42.8 | 38.5 | 24.7 | 100.0 | 100.0 | 100.0 |

Figures may not add to total because of rounding.

## Demand

U.S. Use of Fish Oil

About 8.2 million pounds of fish oil were used in the United States for industrial purposes in January-April 1973--compared to 8.5 million pounds a year before (table 19). The slight decline in the domestic use of fish oil was probably caused by relatively favorable prices of competing oils and demand for exports during January-March.

Exports

Exports of fish oil were 30.1 million pounds during the first 5 months of 1973--down about 1 million pounds from the year earlier. About 92 percent of the U.S. exports of fish oil was menhaden oil (table 20).

Table 19.--Industrial use of fish oil in the United States, by month, 1971-73 1/

| Month | 1971 | 1972 | 1973 2/ |
|---|---|---|---|
| | Million pounds | | |
| January | 2.2 | 1.9 | 2.5 |
| February | 2.1 | 2.5 | 2.0 |
| March | 2.0 | 2.1 | 1.9 |
| April | 2.0 | 2.0 | 1.8 |
| May | 1.9 | 2.3 | |
| June | 2.8 | 2.2 | |
| July | 2.7 | 3.5 | |
| August | 1.7 | 3.7 | |
| September | 3.0 | 2.6 | |
| October | 1.4 | 2.6 | |
| November | 1.9 | 2.4 | |
| December | 2.9 | 2.2 | |
| Total 3/ | 26.5 | 30.0 | |

1/ Includes marine mammal oil other than sperm oil and some hydrogenated fats (vegetable and animal) and other fats and oils in process.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

Table 20.--U.S. exports of fish oil 1/, by month, 1971-73

| Month | 1971 | 1972 | 1973 2/ |
|---|---|---|---|
| | Million pounds | | |
| January | 32.2 | 14.0 | 6.5 |
| February | 4.9 | 10.3 | 11.0 |
| March | 0.3 | 0.7 | 11.1 |
| April | 6.1 | .9 | 0.5 |
| May | 4.6 | 5.3 | 1.0 |
| June | 10.9 | 11.0 | |
| July | 34.7 | 38.3 | |
| August | 43.1 | 2.0 | |
| September | 43.7 | 32.4 | |
| October | 4.4 | 38.0 | |
| November | 21.6 | 6.4 | |
| December | 23.4 | 33.8 | |
| Total 3/ | 229.9 | 193.2 | |

1/ Excluding whale oil.
2/ Preliminary.
3/ Figures may not add to total because of rounding.

About 17.7 million pounds of the exported fish oil went to the Netherlands in January-April 1973, compared with 7.4 million pounds a year before. The exports to the Netherlands accounted for 61 percent of the total United States exports of fish oil during the first 4 months of 1973.

Sweden received 8.8 million pounds of menhaden oil from the United States in January-April 1973--about 1 million pounds more than a year ago. The United States exported 1.1 million pounds to West Germany--less than one-third of the exports of a year ago.

### Prices of Fish Oil

The prices of menhaden oil increased rapidly during the first 5 months of 1973. The average monthly price of menhaden oil was 8.75 cents per pound in January (table 21). Prices then increased steadily and reached a record-breaking monthly average of 11.65 cents per pound in May. Major reasons for the increase in fish oil prices were harvest losses for the United States soybean crop, prospects for a reduction or a less than expected increase in the world output of various kinds of oils, plus the uncertain Peruvian supply situation. Also, the devaluation of the dollar at least partially added to the dollar price of fish oil.

## OUTLOOK

High export demand and relatively high prices for fish oils are expected to continue during the summer. Then the new crop supplies of competing oils will become available and softening of the market could be expected.

The following major factors are influencing the market: 1). U.S. export restrictions on soybean oil will tighten the supply situation in Europe in the short run, and substitute oils will enjoy higher demand. As far as fish oil is concerned, only hydrogenated fish oil is under export control. Exports of hydrogenated fish oils are negligible in comparison with exports of other fish oils. Menhaden oil and other non-hydrogenated fish oils are not subject to control. 2). Soybean oil prices are likely to continue to decline in the United States, but export restrictions in various vegetable oil producing countries tend to keep European prices up. 3). When the new large crop becomes available in the United States in the fall, the export restrictions on soybeans may be eased and result in lowering prices for fats and oils also in Europe. 4). Prospective reduction of stocks of oilseeds, oils, and fats in Europe is another bearish factor affecting exports and prices of U.S. fish oil.

The domestic use of fish oil is expected to be considerably lower during the second half of 1973 than a year before because of high prices, which are determined largely by the export markets. U.S. production of fish oil in 1973 is expected to be below a year ago. We estimate the total production to be near 175 to 180 million pounds.

Table 21.--Average monthly price of menhaden oil 1/ f.o.b. East Coast plants, 1971-73

| Month | 1971 | 1972 | 1973 |
|---|---|---|---|
| | Cents per pound | | |
| January | 10.40 | 7.35 | 8.75 |
| February | 10.30 | 6.85 | 9.60 |
| March | 10.20 | 6.50 | 10.25 |
| April | 9.65 | 6.40 | 10.85 |
| May | 8.95 | 6.95 | 11.65 |
| June | 8.05 | 6.80 | 11.85 |
| July | 8.60 | 6.90 | |
| August | 9.25 | 7.30 | |
| September | 9.15 | 7.80 | |
| October | 8.85 | 8.70 | |
| November | 8.90 | 8.80 | |
| December | 8.50 | 8.90 | |
| Average 4/ | 8.80 | 7.25 | |

1/ Crude oil in tank cars; prices quoted by brokers at New York City.
2/ Asking price.
3/ F.o.b. Gulf Coast plants.
4/ Weighted average.

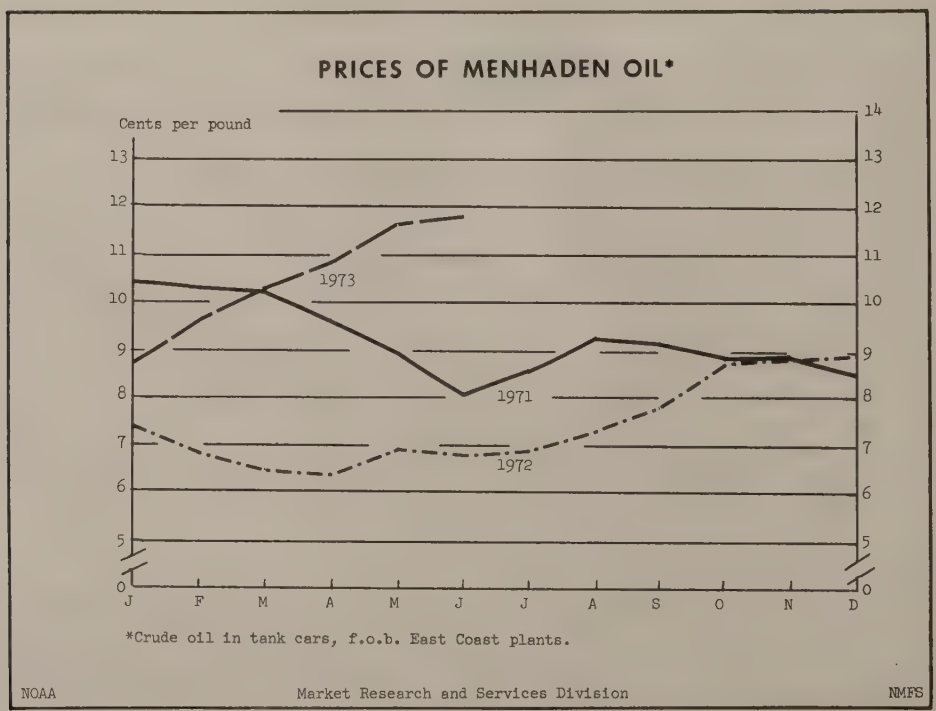


Figure 5

## ADDENDUM: PHASE IV

Under Phase IV, processed agricultural products, including fish meal, have become subject to price controls. The Cost of Living Council has broadened its definition of "food" to mean "an item produced for human or animal ingestion, except for alcohol, tobacco, drugs ..." This new definition "includes both animal feeds, and items with both food and nonfood end uses, such as soybean oil, so long as their primary use is as food. An item is not treated as food under this definition until it has been processed or, if it is the sort that is sold in its original physical form for ultimate human consumption ... until after its first sale."[1/]

The Phase IV regulations are divided into two stages, Stage A and Stage B. Under Stage A, which became effective July 19, 1973, food prices may be increased only to reflect raw agricultural cost increases. The freeze cost is calculated as the average cost for the period June 1 through June 8, 1973, or if no deliveries were received then, the nearest preceding 7-day period. Furthermore, according to the rules under Stage A a firm may increase the sale price of its product if the "freeze costs" during the period June 1-8 exceed its "freeze price." In this case a firm may reach back as far as January 10, 1973, to find increases in raw agricultural product costs to justify a price increase. Likewise, a decline in a firm's costs must be also reflected in the firm's prices. Price adjustments must be certified on each invoice through the distribution chain.[2/]

Stage B, which becomes effective September 12, allows manufacturers to pass through all cost increases since June 8, on a dollar-for-dollar basis. And, under Stage B, most of the regulations for other economic sectors will be the same for the food industry, for example:

-- companies with annual sales greater than $100 million must file prenotification statements with the Cost of Living Council, 30 days before price increases are effected.

-- companies with sales over $50 million must file quarterly reports.

-- sellers must maintain complete records on freeze prices and make them available to Economic Stabilization Program representatives.

-- profit margin limitations will be continued.

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1/ Cost of Living Council "Phase IV Announcement" July 19, 1973, page 21.

2/ Specific guidelines are detailed in: Cost of Living Council, "Phase IV Announcement" July 19, 1973.

Both Phase IV and export controls for fish meal and other feed grains seek to ensure that all production will be consumed domestically at stabilized prices. Export restrictions on soybeans and related products will be continued through the rest of the current crop year (end of September) according to the Office of the White House Press Secretary.

Phase IV represents a concerted short-run attempt to stabilize prices of feed grains and ultimately end-products until the time that improved supplies and prices can allow a return to the free market operations.

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